REMARKS

Reconsideration of the present application is respectfully requested. Claims 1-30 previously presented for examination remain in the application. Claims 1, 6, 20, 22 and 27 have been amended. No claims have been canceled and no new claims have been added.

The specification stands objected to because it is considered that the specification does not clearly describe the feature "fixed" in "fixed points/nodes" as recited in claims 1, 9, 15, 20, 22 and 27.

Applicants respectfully submit that the specification as filed provides clear support for the fixed points/nodes feature as recited in the claims. The specification clearly refers to identifying feasible routing solutions between points. While the term "fixed" is not explicitly used in reference to the points/nodes in the specification, the fixed nature of the points/nodes is clear.

A particular example can be found in the specification at page 5, beginning at line 5 where it is stated:

> For the example of Figure 5, partial feasible routing solutions corresponding to each of XX', YY' and ZZ' as shown by plan view diagrams 501, 502 and 503, respectively. As in the example of Figures 1 and 2, only three vertical and four horizontal tracks are available for routing XX', YY' and ZZ'. For this example, all feasible routes are identified for each of the corresponding wires when identifying the partial feasible routing solutions.

(Specification, Page 5, lines 5-10)(Emphasis added).

If the points X, X', Y, Y', Z or Z' were movable during this routing phase, the lines shown in Figure 5 could not be considered to identify all feasible routes as described. Other similar examples may also be found throughout the

specification, which provide additional support for th fixed points/nodes element of the claims. For at least this reason, applicants respectfully submit that the specification clearly supports this feature and request that the objection to the specification be withdrawn.

The drawings stand objected to under 37 C.F.R. § 1.83(a). It is considered that the drawings do not show the fixed points/nodes set forth in claims 1, 9, 15, 20, 22 and 27.

Applicants respectfully submit that the drawings as submitted show the fixed points/nodes set forth in the claims. In particular, **Figure 5** is described as showing all the possible routing solutions between the points X and X', the points Y and Y' and the points Z and Z', respectively. For reasons similar to those argued above, then, the points X, X', Y, Y', Z and Z' shown in Figure 5 are indicated as being fixed.

For at least this reason, applicants' respectfully submit that the fixed point/node feature of the claims is shown in the Figures. Applicants respectfully request withdrawal of the objection.

Claims 1-30 stand rejected under 35 U.S.C. § 112, first paragraph as being considered to fail to comply with the enablement requirement. More specifically, it is considered that the "fixed" feature in the limitation "identifying a feasible route between fixed points/nodes in a layout" is not supported by the specification.

For reasons similar to those argued above in reference to the objections to the specification and drawings, applicants respectfully submit that the fixed

feature is clearly described in the specification and shown in the figures. For at least this reason, applicants respectfully submit that claims 1-30 meet the requirements of 35, U.S.C. § 112, first paragraph.

Claim 6 stands rejected under 35 U.S.C. § 112, second paragraph as being considered indefinite for using the phrase "may be." Claim 6 has been amended as indicated. Applicants respectfully submit that the claims meet the requirements of 35 U.S.C. § 112.

Claims 1-30 stand rejected under 35 U.S.C. § 102(e) as being considered to be anticipated by U.S. Patent No. 6,122,443 to Nishikawa ("Nishikawa").

Applicants respectfully submit that Nishikawa does not teach or suggest the claimed features of applicants' invention including at least identifying multiple partial feasible routing solutions and merging routing trees to identify a feasible routing solution.

Claim 1 includes the limitations

> identifying partial feasible routing solutions corresponding to each of a subset of a set of wires to be routed, each of the partial feasible routing solutions identifying a feasible route between fixed points in a layout, at least two partial feasible routing solutions being identified for at least one of the wires to be routed;
>
> constructing a routing tree from the identified partial feasible routing solutions for each of the subset of wires to be routed; and
>
> following identification of the partial feasible routing solutions, merging the partial feasible routing trees to identify one or more feasible routing solutions for the set of wires to be routed, wherein merging includes selecting between the identified partial feasible routing solutions for each of the subset of wires to identify a partial feasible routing solution that does not conflict with a selected partial feasible routing solution for any of the other wires of the subset of wires.

(Claim 1)(emphasis added).

Nishikawa discloses a wire l ngth minimization approach to be used in a compaction process. The approach of Nishikawa is focused on moving objects and wires to efficiently and effectively reduce the cost of the wires. (Nishikawa, Abstract). Nishikawa forms a tree having as nodes a plurality of objects having a predetermined relative positional relationship. A load of a parent node is then calculated based on a load of a child node moving sequentially from a leaf side of the tree. Objects and wire corresponding to a tree portion having a root with a load satisfying a predetermined condition are specified and the specified objects and wires are moved as a whole. (Nishikawa, e.g. col. 6, lines 21 - 36).

Nishikawa does not teach or suggest identifying multiple feasible routing solutions between two points, constructing a corresponding routing tree and then merging routing trees to identify a feasible route as set forth in claim 1.

For at least this reason, claim 1 is patentably distinguished over the Nishikawa reference.

Independent claims 9, 15, 20, 22 and 27 each include at least one of the above-argued limitations. Claims 2-8, claims 10-14, claims 16-19, claim 21, claims 23-26 and claims 28-30 depend from and further limit claims 1, 9, 15, 20, 22 and 27, respectively. Thus, claims 2-30 should also be found to be patentably distinguished over the Nishikawa reference.

Claims 1-30 stand rejected under 35 U.S.C. § 102(b) as being considered to be anticipated by U.S. Patent No. 5,822,214 to Rostoker et al. ("Rostoker").

Applicants respectfully submit that Rostoker does not teach or suggest at least the claimed routing tre s as set forth in claim 1.

Rostoker discloses, among other things, a routing algorithm. According to Rostoker, for multi-pin nets, a minimum spanning net is identified and the distance between every possible pair of points is calculated. For each set of pairs of nodes, possible routes are examined using Lee's algorithm to find a path between the selected pair. A bidding system is then used to identify a final route over potentially multiple iterations of processing.

Rostoker does not teach or suggest, however, building a routing tree for each of a set of partial feasible routing solutions and then merging the routing trees to identify a feasible routing solution.

For at least this reason, claim 1 is patentably distinguished over the Rostoker reference.

Independent claims 9, 15, 20, 22 and 27 each include at least one of the above-argued limitations. Claims 2-8, claims 10-14, claims 16-19, claim 21, claims 23-26 and claims 28-30 depend from and further limit claims 1, 9, 15, 20, 22 and 27, respectively. Thus, claims 2-30 should also be found to be patentably distinguished over the Rostoker reference.

Applicants respectfully submit that the applicable objections and rejections have been overcome and claims 1-30 are in condition for allowance. If the Examiner disagrees or believes that further discussion will expedite prosecution of this case, he is invited to telephone applicants' representative at the number indicated below.

If there are any charges, please charge Deposit Account No. 02-2666.

Respectfully submitted,

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